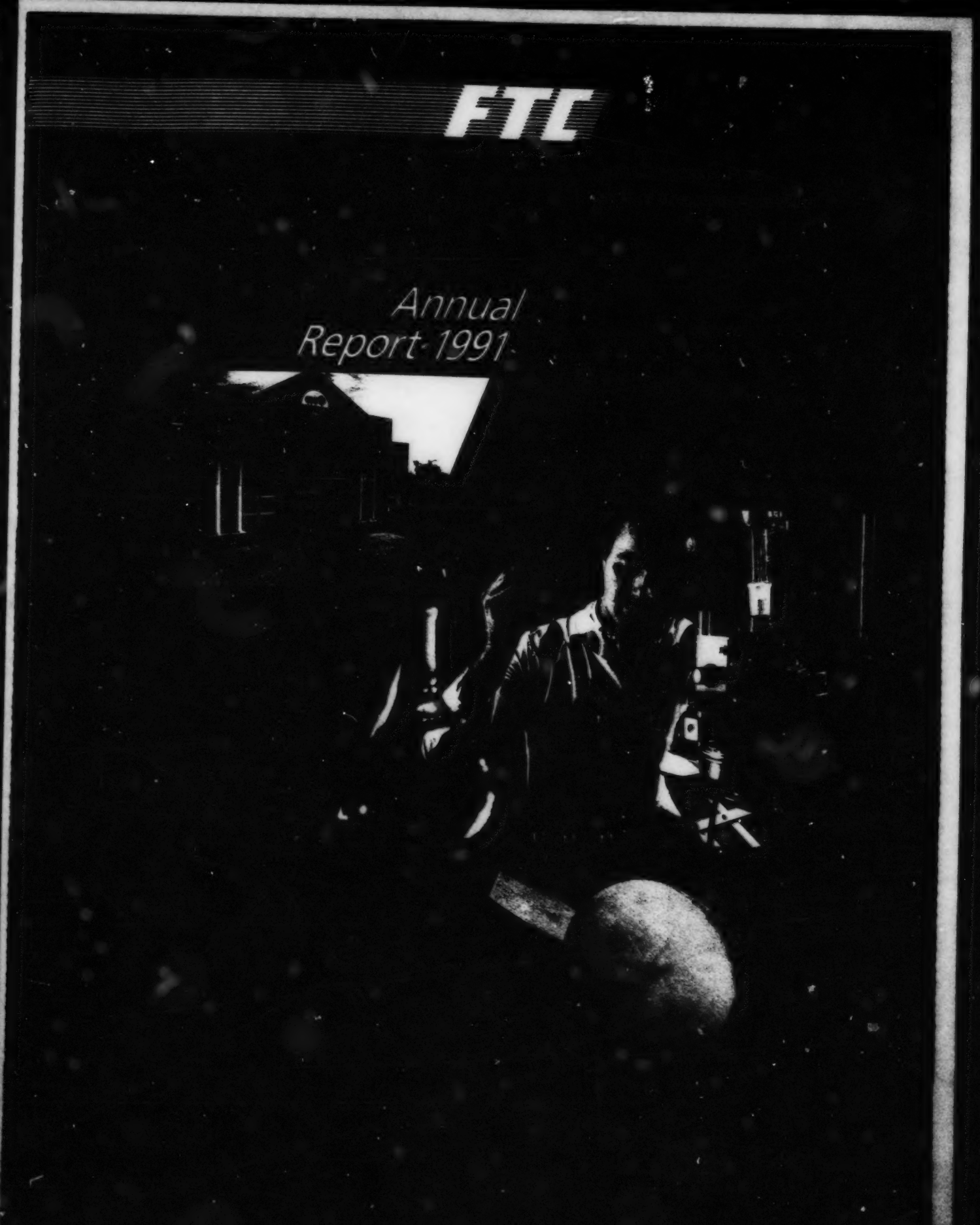
FTC

Annual Report 1991



MISSION STATEMENT

... to elevate secondary processing and value added activities within the agricultural and fisheries sectors of Prince Edward Island through provision of technical services.

In addition, to provide research and development leadership supporting innovation and integration of products, processes and technologies which enhance the competitiveness and capacity of Prince Edward Island's agricultural and fisheries sectors.

92-06112/

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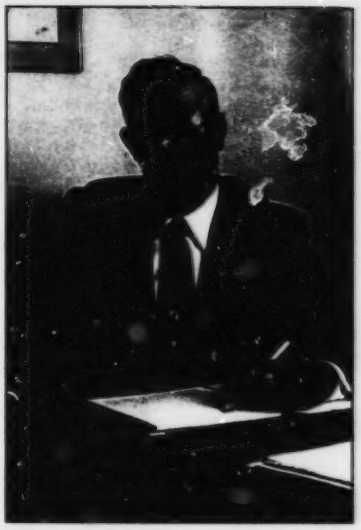
MESSAGE FROM THE CHAIRPERSON



George D. Wright

The past year represented P.E.I. Food Technology Centre's first full year as an active research and development organization, with functional labs and pilot plant. The establishment of the Food Safety and Quality Assurance program, in addition to its initial assignment in pesticide monitoring, has provided the vehicle to respond to a number of problem areas in the fish processing sector.

A matching ACOA (Atlantic Canada Opportunities Agency) contribution enabled the Centre to substantially increase its pilot plant and laboratory equipment, so that we feel our equipment and facilities are now second to none in Atlantic Canada. Our policy of capitalizing our equipment and setting aside depreciation reserves each year has proven its worth by providing the matching funds for the ACOA contribution. The continued assistance and encouragement from ACOA is very helpful and much appreciated, and is, we feel, an excellent investment for ACOA.

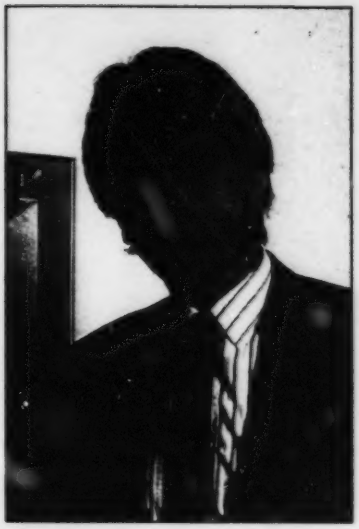
The new facility, occupied in the previous fiscal year, has proven to be very satisfactory to our needs, although, at the present level of activity, we are rather short of space. Decisions will be required in the upcoming year regarding a plan for future growth.

During the year, in keeping with the growing volume of project revenue, we installed comprehensive financial controls. These systems will continue to evolve, not only to provide the necessary financial controls, but to incorporate a comprehensive management information system (MIS) as well. The installation of a computer networking system during the upcoming year, will facilitate this process.

In 1990, in compliance with provincial Pay Equity Legislation, the Centre began a process to ensure that pay practices are implemented on a gender neutral basis. With training and assistance from Norman D. Willis Assoc., an internal Pay Equity Committee began the process of evaluating and scoring all Centre staff positions. The Committee will submit their report to the Pay Equity Commission, and, if adjustments are necessary, female dominated positions will be adjusted using 1% of the Centre's salary budget each year for three years to attain equity. The Centre plans to follow this up with a comprehensive exercise to ensure internal equity for all staff.

The efforts of Centre staff, under the enthusiastic leadership of Dr. Ablett, are the real key to the success of the Food Technology Centre. My appreciation and thanks are extended to them. As well, the continued support of the Province, through the Executive Council and individual line departments, particularly the Department of Industry, makes the whole operation possible. I would also like to express my appreciation and thanks to members of the Board of Directors for their contributions and support of the efforts of the Centre.

Of course, our reason for existence is to serve our client base. I express my sincere appreciation and thanks for their interest and cooperation over the past few years and look forward to a substantial expansion in client interaction in the coming year.



Richard F. Ablett

MESSAGE FROM THE EXECUTIVE DIRECTOR

The P.E.I. Food Technology Centre has addressed many of its goals which were identified last year. Successful acquisition of qualified technical staff has resulted in a maximum complement of 40 personnel. In response to positive industry demand and subsequent project requirements, the Centre has procured state-of-the art analytical and pilot plant equipment and has recruited 25% more staff than the facility was originally established to accommodate. Many of these positions have been supported through project revenue. In the upcoming year, FTC will explore routes for cost recovery to further supplement the base budget and optimize and maintain growth of the Centre.

Food safety issues continue to pose the greatest threat to the P.E.I. agri-fish sector. In 1990, a Food Safety Quality Assurance (FSQA) program was launched to target both pesticides for the potato industry, and microbial issues for the lobster processing industry, as well as to establish and provide routine Quality Control support services. Over a six month period, the Centre recruited microbiology, analytical chemistry, seafood processing and management staff. A major comprehensive pesticide survey is currently underway on behalf of the Potato Producers Association. This data will be kept in strict confidence, but the resulting database will serve as a primary line of defence for the potato industry in the provision of accurate technical data. Processes to eliminate *Listeria monocytogenes* have been established for PEI lobster processors and appropriate thermal processing and equipment retrofits are underway in cooperation with the PEI Seafood Processors Association.

Technology transfer has continued to be an important activity for FTC. Prince Edward Island's limited financial and human resources dictate that it concentrate on the transfer of technology rather than investing extensively in R & D. Current examples of such FTC activity include work on Modified Atmosphere Packaging technology for small fruits and vegetables, commercial scale production of ready- prepared mariniere sauce for frozen cultured mussels, installation of a soya bean roaster for local producers, and the adoption of innovative packaging technologies for Island potatoes.

Establishment of industry support for centre outputs and education of the PEI community in the role and potential of FTC capabilities was another one of FTC's identified goals. FTC has been successful in achieving an on-going and expanding interaction with the agri-fish processing sector in PEI. This is reflected in cost recovery performance of $807,500 in supplement to the $1,205,700 operating contribution from the provincial government. Community awareness and understanding of the Centre's role has been growing. Technical staff have conducted tours for visiting dignitaries, government officials, local organizations, and science students. Promotional activities included the development of a colourful brochure and kit folder detailing the services of the Centre and a new video describing the what, where and how of FTC.

Staff are involved on a routine and expanding basis with a large number of food processors on PEI. Provision of technical services, on behalf of the processing industry, remains the primary objective of FTC's mandate. The Centre is actively involved in product development, process development, analytical services, microbiology and Quality Control support, technology transfers, trouble-shooting, technical information sourcing, and test market production. These activities form the core of FTC operations.

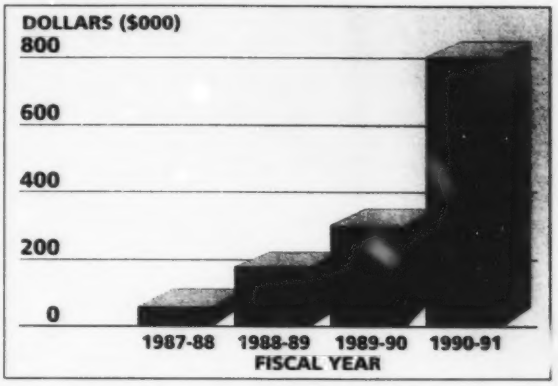
GRAPHICAL REPRESENTATION OF FTC'S PROGRESS

In 1990-91, the Province of Prince Edward Island contributed a base operating budget of $1,205,700 to the P.E.I. Food Technology Centre. This allocation supported 61% of the Centre's total annual requirements. FTC has earned a gross revenue of $807,500 through fee-for-service contracts with the private sector and government.

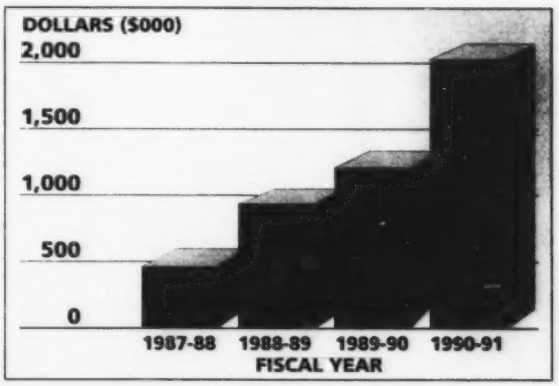
The Centre's commitment to cost recovery allowed for continued expansion of the scientific and technical service to local industry. Staff were hired during the year to implement a Food Safety and Quality Assurance program, to increase microbiology and chemical laboratory support, to increase direct support to industry, to conduct in-house research, and to provide sensory analysis services.

The success of the Centre's cost recovery program is largely attributable to the coordination between the Centre and agencies of the government. These agencies include Atlantic Canada Opportunities Agency, Industry Science & Technology Canada, National Research Council, and the departments of the provincial and federal governments. Collectively, these agencies assist FTC in providing services to industry in the development, transfer, and adaptation of food technologies pertinent to the region.

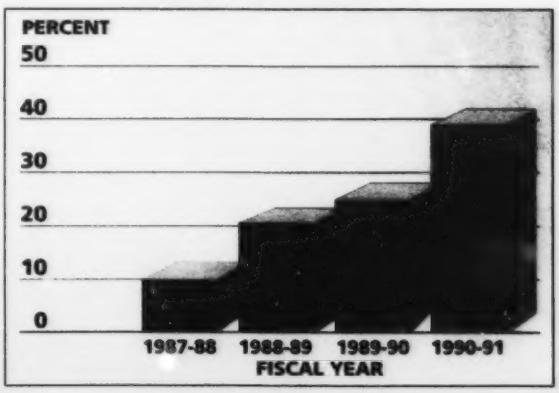
CONTRACT & OTHER REVENUE



ANNUAL NET OPERATING REQUIREMENTS (Total Expenses)



DEGREE OF SELF-SUFFICIENCY

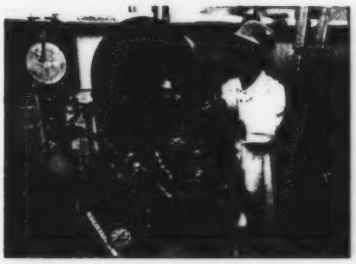


FTC INVOLVEMENT WITH P.E.I. INDUSTRY

FTC investigates packaging options for frozen lobster.

Frozen Lobster Meat

The practice of packing frozen lobster meat in 11.3 oz. and 32 oz. cans for the retail and institutional markets, presents problems for retailers who must pay a considerable amount for these large cans and for the institutional market, where only a small proportion of the pack may be used at one time. The P.E.I. Seafood Processors' Association is considering the potential of a 100 g package for these markets. FTC is investigating the ability of various packaging options for frozen lobster meat, to provide optimum product protection and consumer appeal and to demonstrate the effect of pre-packaging treatments and storage temperatures on the quality and acceptability of the product over time.



FTC assists lobster processors in destroying *Listeria monocytogenes*

Development of Lobster Heat Treatment Process

The presence of *Listeria monocytogenes*, a disease-causing bacteria found in cold-packed lobster meat, has caused considerable problems to seafood processors exporting to the United States, where a zero tolerance for this organism currently exists. Destruction of *Listeria*, using a specific heat treatment, was proposed by regulatory authorities; however, details of the delivery of the process have been left to the industry. The Centre, on behalf of the P.E.I. Seafood Processors' Association, has determined the basic microbial death characteristics and the pilot plant processing conditions under which optimal product quality can be attained, keeping in mind production rate requirements and capital equipment availability. Throughout the 1991 lobster fishing seasons, the Centre will transfer the processing technology to the Island lobster processing plants and will initiate a frozen storage stability study to determine the effects of storage temperature and time on product quality and acceptability.

Longer shelf-life for Johnston's Home Style Parfait

Parfait Jelly Dessert

Johnston's Home Style Products are featured in retail establishments throughout the Maritimes. In order to guarantee freshness and quality, particularly in distant markets, Johnston's approached FTC to extend the shelf-life of their popular Parfait Jelly Dessert. FTC examined ways to enhance product quality and thus extend their "best-before" dates for refrigerated storage. The Centre examined novel ingredients such as stabilizers and antimicrobials. We found that a more stable whipped product, coupled with mould inhibitors and Johnston's good manufacturing practices, allowed the company to more than double the shelf-life, thus ensuring product consistency for Johnston's Home Style customers everywhere.

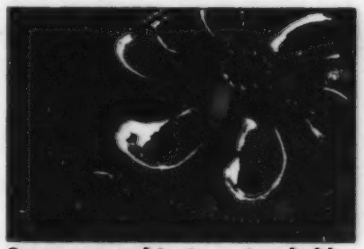
Nutritional Labelling

It's no secret that consumers are becoming more health conscious of the foods they eat, and to stay one step ahead of the game, Health Milk Company decided to voluntarily label their Elmer's dairy products with nutrition information. FTC's well equipped laboratories were able to provide nutrient analyses for all of Health's products. This information was then collated into a data base and presented to the company in a label format which complies with Canadian government specifications. Information contained in this data base was also used to support health claims, such as "low fat" and "cholesterol free" - claims that provide Health Dairy with an important marketing advantage in a very competitive industry.

FTC provides nutrient analysis for labelling of Elmer's dairy products.

Sensory Evaluation of Oysters in Holding Regime During Winter Months

On P.E.I., oysters for winter consumption are usually harvested in the fall and held in refrigerated storage. As an alternative storage regime, Atlantic Aqua Farms Inc. investigated the feasibility of holding oysters in water under the ice. With the use of a trained sensory panel, FTC evaluated the quality of the oysters from December 1990 through to March 1991. The panel tested the oysters in terms of taste, texture, colour, odour and overall acceptance, to ensure that the sensory characteristics of the oysters continue to meet consumer expectations. Results of the project will be presented in confidence to Atlantic Aqua Farms Ltd..



Sensory panel tests oysters held in water under ice.

Fish Silage-based Feed for Fur Fox

A project was undertaken by FTC to convert herring carcass of fish processing waste to fish silage - an excellent animal protein feed supplement for growing fur foxes. The feeding experiments at England Fur Farm Ltd. showed that the feed, supplemented with 30% herring silage, produced an 18% weight increase of foxes compared to the regular feed. This resulted in larger pelts, while the cost of the feed ingredient only increased 17% at the farm site.

Conversion of underutilized waste excellent protein supplement for fox feed.

Frozen Seafood Entrées

Due to international promotions of value-added seafood products and the recent large catches of lobster in Maine and the Maritimes, P.E.I. lobster processing plants found themselves maintaining large inventories of frozen lobster in brine and canned lobster meat. In response to these circumstances, Canadian Gourmet Foods Inc. sought the technical assistance of the P.E.I. Food Technology Centre in the development of value-added frozen seafood entrées that utilize previously-frozen lobster and scallop meats. Collaborative efforts resulted in frozen entrées (lobster/scallop Mornay and Oriental) portion-packaged (2 servings) in vacuum pouches of high gas-barrier film. Based on sensory analysis for consumer acceptability and product safety over a period of 12 months of frozen storage, preliminary results are extremely encouraging.

Frozen seafood entrées are developed to utilize excess lobster.

Tenderizing of surf clams.

Stimpson Surf Clams

To address the problem of toughness in overprocessed Stimpson surf clams, experiments were conducted to tenderize clam tissue using proteolytic enzymes. Clam foot adductor and mantle muscles were used in the study. The results showed that bromelain, ficin and papain were effective in tenderizing the clams if applied to the raw tissue, whereas application of enzymes after the clams were cooked was not effective in tenderizing the clam tissues.

Food Safety Quality Assurance program underway for agri-fish industries.

Potato Pesticide Project

In 1990, FTC was asked by the Province to implement a Food Safety and Quality Assurance (FSQA) program for the agriculture and fisheries industries. The Centre is presently procuring the necessary staff and equipment for this program. The first major FSQA project will be conducted on behalf of the P.E.I. Potato Producers' Association. FTC will analyse 255 potato samples during the 1991-92 storage season. Each sample will be analysed for 15 different pesticide residues that are commonly used in Prince Edward Island. The results will be presented confidentially to the Association and will be used to improve pesticide application practices.

DF&O Accepts FTC Listeria testing.

Listeria Accreditation

Accreditation is the acknowledgement by an agency that analysis is being performed properly. The laboratory and systems in place are examined and samples are provided by the Agency for analysis. Fisheries and Oceans Canada put FTC to the test and now recognises our laboratory for *Listeria* analysis. This means that FTC's results will be accepted by that agency. Extensive efforts are now underway to acquire Agriculture Canada accreditation.

F.T.C. ENTERPRISES LIMITED

FINANCIAL STATEMENTS
FOR THE YEAR ENDED
MARCH 31, 1991

AUDITORS' REPORT TO THE SHAREHOLDERS OF F.T.C. ENTERPRISES LIMITED

We have audited the balance sheet of F.T.C. Enterprises Limited as at March 31, 1991 and the statements of operations and retained earnings and changes in financial position for the year then ended. These financial statements are the responsibility of the company's management. Our responsibility is to express an opinion on these financial statements based on our audit.

We conducted our audit in accordance with generally accepted auditing standards. Those standards require that we plan and perform an audit to obtain reasonable assurance whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation.

In our opinion, these financial statements present fairly, in all material respects, the financial position of the company as at March 31, 1991 and the results of its operations and the changes in its financial position for the year then ended in accordance with generally accepted accounting principles.

Coopers & Lybrand

CHARTERED ACCOUNTANTS
May 23, 1991

BALANCE SHEET AS AT MARCH 31, 1991

ASSETS

	1991 $	1990 $
CURRENT ASSETS		
Cash	-	160,046
Accounts receivable	249,627	25,672
Grants receivable	158,000	459,347
Deposit on equipment	20,229	-
	427,856	645,065
FIXED ASSETS (Note 3)	3,073,514	2,930,367
	3,501,370	**3,575,432**

LIABILITIES

CURRENT LIABILITIES		
Bank advances	4,241	-
Accounts payable and accrued liabilities	76,109	46,588
Holdbacks payable	-	42,747
Deferred revenue	14,701	13,000
	95,051	102,335
DEFERRED CREDITS less accumulated amortization of $422,185 (1990 - $208,975)	2,235,815	2,291,025
	2,330,866	2,393,360

SHAREHOLDERS' EQUITY

CAPITAL STOCK (note 5)	100	100
CONTRIBUTED SURPLUS	991,040	991,040
RETAINED EARNINGS	179,364	190,932
	1,170,504	1,182,072
	3,501,370	**3,575,432**

SIGNED ON BEHALF OF THE BOARD

Director

Director

STATEMENT OF OPERATIONS AND RETAINED EARNINGS FOR THE YEAR ENDED MARCH 31, 1991

	1991 $	1990 $
REVENUE		
Grants - Province of Prince Edward Island (note 6)	1,205,700	1,012,600
- National Research Council	92,013	78,893
Project recoveries	715,485	242,945
	2,013,198	**1,334,438**
EXPENSES		
Salaries and benefits	1,149,733	612,572
Project costs	328,240	263,778
Office	29,022	22,210
Lab and field supplies	89,616	16,597
Telecommunications	33,170	39,341
Occupancy costs	85,871	62,436
General administration	7,844	9,004
Printing	12,404	3,733
Advertising and promotion	40,539	26,096
Publications	20,623	20,919
Professional fees	22,824	16,963
Travel, training and relocation	61,990	43,725
Doubtful accounts	26,514	16,808
Depreciation	383,011	289,430
	2,291,401	1,443,612
OPERATING LOSS	(278,203)	(109,174)
OTHER INCOME		
Interest	53,425	91,131
Amortization of deferred credit	213,210	208,975
	266,635	300,106
NET INCOME (LOSS) FOR THE YEAR	(11,568)	190,932
RETAINED EARNINGS - BEGINNING OF YEAR	190,932	-
RETAINED EARNINGS - END OF YEAR	**179,364**	**190,932**

STATEMENT OF CHANGES IN FINANCIAL POSITION FOR THE YEAR ENDED MARCH 31, 1991

	1991 $	1990 $
OPERATING ACTIVITIES		
Net income (loss) for the year	(11,568)	190,932
Items not affecting cash -		
Depreciation	383,011	289,430
Amortization of deferred credits	(213,210)	(208,975)
	158,233	271,387
Net increase in non-cash working capital balances related to operations	(255,709)	(556,178)
	(97,476)	(284,791)
FINANCING ACTIVITIES		
Increase in deferred credits	158,000	1,565,529
Net decrease in grants receivable	301,347	93,447
Increase in contributed surplus	-	70,000
	459,347	1,728,976
INVESTING ACTIVITY		
Purchase of fixed assets	(526,158)	(2,772,390)
DECREASE IN NET CASH	(164,287)	(1,328,205)
NET CASH - BEGINNING OF YEAR	160,046	1,488,251
NET CASH - END OF YEAR	**(4,241)**	**160,046**
Net cash consists of:		
Cash	-	160,046
Bank advances	(4,241)	-
NET CASH - END OF YEAR	**(4,241)**	**160,046**

NOTES TO FINANCIAL STATEMENTS
FOR THE YEAR ENDED MARCH 31,1991

1. ACCOUNTING POLICIES

The financial statements of the company have been prepared in accordance with generally accepted accounting principles. The following is a summary of significant accounting policies used in the preparation of these financial statements.

a. Depreciation
Depreciation of fixed assets is calculated using the straight-line method at the following annual rates:

Building	5%
Pilot plant and laboratory equipment	10%
Laboratory supplies	50%
Computer and audio visual equipment	33 1/3%
Office furniture and equipment	20%

A full year's depreciation is taken in the year of acquisition.

b. Deferred credits
The company has adopted the policy that contributions from the Atlantic Canada Opportunities Agency towards the acquisition of fixed assets will be deferred and amortized to income on the same basis as the related fixed assets are depreciated.

c. Revenue recognition
The company follows the percentage-of-completion method of accounting for revenue and expenditures on project contracts. The percentage-of-completion method records the company's estimated profit based on the expenditures incurred and work completed on each contract in progress.

2. CORPORATE STATUS

The company is a wholly-owned subsidiary of a crown corporation, the Prince Edward Island Development Agency, and is therefore a non-taxable entity.

The company operates under the name of the Prince Edward Island Food Technology Centre.

3. FIXED ASSETS

	1991			1990
	Cost	Accumulated depreciation	Net	Net
	$	$	$	$
Building	2,261,751	225,721	2,036,030	2,140,051
Pilot plant and laboratory equipment	1,109,425	212,952	896,473	651,827
Laboratory supplies	120,525	117,724	2,801	57,421
Computer and audio visual equipment	204,492	119,360	85,132	31,131
Office furniture and equipment	104,776	51,698	53,078	49,937
	3,800,969	**727,455**	**3,073,514**	**2,930,367**

4. LEASE

The company has entered into a twenty-five year lease expiring November 2013 with the University of Prince Edward Island for the lease of land upon which the corporation constructed its new facilities. The lease cost is $1 per year and is renewable for a further term of twenty-five years for the same annual consideration.

5. CAPITAL STOCK

	1991	1990
	$	$
Authorized, issued and fully paid - 100 common shares of the par value of $1 each	100	100

6. GRANTS FROM THE GOVERNMENT OF PRINCE EDWARD ISLAND

During the year, the company received the following grants:

	1991	1990
	$	$
Operating	1,205,700	1,012,600
Contributed surplus	-	70,000
	1,205,700	1,082,600

FTC INFRASTRUCTURE

Sensory Analysis

Formal sensory analysis is conducted at FTC to quantify differences in the sensory properties of foods, which cannot be measured by instruments. Through the use of an advanced computer-based sensory analysis software system, trained sensory panellists evaluate food in terms of taste, texture, colour, and odour, thus assuring that products provide the sensory characteristics required to meet consumer expectations.

Trained panellists evaluate sensory characteristics of food.

Information Services

FTC's Information Services Division is actively involved in gathering information in support of FTC projects. Computerized interlibrary loans are conducted in-house, supplementing an extensive library of technical books and journals relating to the food industry, and staff have world-wide access to scientific publications through the Canadian Library Association (Dialog) and Leatherhead Food Research Association in the U.K.

FTC has world-wide access to scientific information.

Analytical Services

FTC's laboratories, occupying 2,400 sq ft., provide an extensive range of analytical capability. An instrumentation section provides analysis of texture, colour, and thermal properties and includes advanced chromatography equipment such as HPLC (high performance liquid chromatography), and GC/MS (gas chromatography with mass selective detector). The food chemistry lab is involved in analysis of food products for protein, fat, carbohydrate, moisture, ash, fibre, and micronutrients, such as vitamins and minerals. A microbiology lab offers a broad range of food microbial analyses as well as microbiological research and development.

An extensive range of analytical capability.

Pilot Plant

A 2,000 sq. ft. pilot plant is equipped for a variety of processes including the manufacture of a wide range of food products. It is used in support of in-house projects and is available to clients for processing and production of batches of new product for national and international test markets. The Pilot Plant is federally inspected for marine and agri-food processing, allowing the Centre and its clients to manufacture small to medium-sized test batches, to fine-tune processing, and to evaluate new equipment.

Federally inspected pilot plant.

BUSINESSES ASSISTED

Wendall Graham (1981) Limited
Seaman's Beverages Ltd.
Lobster Specialties Ltd.
Maritime Fisherman's Union, Local 5
Glen William Greenhouses
Atlantic Fish Specialties
Canadian Clear Pure Water Co. Ltd.
Mid-Isle Farms Inc.
Atlantic Aqua Farms Ltd.
Meadowbank Farms Ltd.
Island Saltfish Inc.
Canadian Gourmet Foods Inc.
P.E.I. Soup Company
Belle River Enterprises Ltd.
Babineau Fisheries Ltd.
Health Pasteurized Milk Co. Ltd.
Stella Maris Food Company
Viking Seafoods
C & L Seafoods (Canada) Ltd.
Northumberland Ferries Ltd.
Canadian Smoked Fish Inc.
Keeping and MacKay, Ltd.
Johnston's Homestyle Products Ltd.
England Fur Farms Limited
Garden Province Meats Inc.
Prestige Farms
Ontario Food Technology Centre
Nova Scotia Clam Company Ltd.

ASSOCIATIONS AND GOVERNMENT AGENCIES ASSISTED

P.E.I. Seafood Processors Association
P.E.I. Dept. of Agriculture
P.E.I. Potato Board
P.E.I. Horticultural Association
P.E.I. Trout Growers Association
P.E.I. Blueberry Growers Association
Agriculture Canada
Industry, Science and Technology, Canada
P.E.I. Potato Producer's Association
P.E.I. Dept. of Fisheries
P.E.I. Mussel Grower's Association

STAFF PUBLICATIONS

Published Research Papers

ABLETT, R.F., Bligh E.G. and K. Spencer, (1991). Influence of freshness on quality of white hake (*Urophysis tenuis*) surimi. J. Can. Inst. Food Sci. Tech. 24 1/2: 36-41.

AZAM, K., Strachan, N.J.C., Mackie, I.M., Smith J. and P. Nesvadba (1990) Effect of Slaughter Method on the Progress of Rigor of Rainbow Trout (*Salmo gairdneri*) as measured by an Image Processing System. International Journal of Food Science and Technology, 25, 477-482.

MADHYASTHA, M.S., Marquardt, R.R., Frohlich, A.A., Flatford, G. and D Abramson (1990). Effects of different cereal and oilseed substrates on the growth and production of toxin by *Aspergillus ahutaceus* and *Penicillium verrucosum*. J. Agric. Food Chem. 38: 1506-1510.

SHINN, J.M. and S.L. Wang, (1990). Texture Analysis of Crystallized Honey Using Response Surface Methodology. Can. Inst. Food Sci. and Technol. J.23(4/5):178.

TOORA, S. and G. Singh, (1990). Factors Affecting Production and Activity of Phospholipase-C by *Y. enterocolitica*. Journal of Applied Bacteriology 69, 113-118.

Published Proceedings

AZAM, K., Mackie, I.M. and J. Smith (1990). Effect of Stunning methods on the time of onset, duration and resolution of Rigor in Rainbow Trout (*Salmo gairdneri*) as Measured by Visual Observation and Analyses for lactic acid, nucleotide degradation products and glycogen (Proceedings of IIR Meeting on Chilling and Freezing of New Fish Products, 18-20 Sept., 1990 in Aberdeen, U.K.)

MADHYASTHA, M.S., Novaczek, I., Ablett, R.F., Johnson, G., Nijjar, M.S. and D.E. Sims (1990). Uptake, distribution and clearance of domoic acid by mussels. Workshop on Harmful Algae, Bedford Institute Oceanography, Halifax, Canada.

MERRITT, J.H., Chung, S.L., and S.P. Gould (1990). Experimental freezing on board on sea scallops, *Placopecten magellanicus*. Proceedings, Chilling and Freezing of New Fish Products, Aberdeen, U.K., International Institute of Refrigeration, Paris.

MERRITT, J.H., Chung, S.L., and S.P. Gould (1990). The sea scallop fishery - a case for freezing at sea. Poster presentation at annual conference of Atlantic Fish Technologists, Orlando, U.S.A. Paper to be submitted for publication in the proceedings of the Tropical and Subtropical Fisheries Technological Conference of the Americas.

NOVACZEK, I. and M.S. Madhyastha (1990). Depuration of domoic acid in live mussels. Proc. Mollusc Feeding Workshop, Bedford Institute of Oceanography, Dartmouth, N.S., Canada, April 22, 1990.

PATENTS

YAMAMOTO, S., Singer N., Latella, J., U.S. Patent (CIP) Applications (1990): Titles: (1) Reduced Fat Food Product; (2) Reduced Fat Salad Dressing; (3) Reduced Fat Sour Cream; (4) Viscous Salad Dressing; (5) Reduced Fat Yogurt.

SHINN, J.M. and Wang, S.L., 1990 Honey Product. United States Patent 4,973,491.

CONFERENCE PRESENTATIONS

Ablett, R.F. (1990) "P.E.I. Food Technology Centre". Canada Committee on Food, Ottawa, Ontario.

Ablett, R.F. (1990). "Prince Edward Island - Food Research Activities". National Defence College Canada, Charlottetown, P.E.I.

Ablett, R.F. (1990). "Technology Transfer". Canadian Institute of Food Science and Technology, Saskatoon, Saskatchewan.

Ablett, R.F. (1991). "P.E.I. Food Technology Centre". Address to Atlantic Committee on Food Workshop. Technical University of Nova Scotia.

Ablett, R.F. (1991). "P.E.I. Food Technology Centre". Rural Development in P.E.I. Workshop, Charlottetown, Prince Edward Island.

LeClair, R.J. (1991). Technical Challenges in Shelf-Life Extension for Small Fruits and Vegetables through implementation of Air Packaging and Modified Atmosphere Packaging Techniques. Presentation to the P.E.I. Horticultural Association.

O'Rourke, T. (May, 1990). "Scallop culture experience on Prince Edward Island; Mariculture and rural development; Marketing of shellfish", Beantrai Shellfish Conference, Bantry Co. Cork, Ireland.

O'Rourke, T., (March, 1991). Aquacultural Association of Nova Scotia Annual Conference on Processing Options, Shellburne, N.S.,

O'Rourke, T., (April, 1991). "Marketing and Processing". Newfoundland Aquaculture Association, Grandfalls, Nfld.

O'Rourke, T., (June, 1991). "Processing of Aquaculture Products". Aquaculture Association of Canada, St. Andrews, N.B.

Shinn, J. (May 1990). "P.E.I. Food Technology Centre; Quality Management Programs". Canadian Institute of Food Science and Technology, NB/PEI section meeting, Food Processing Technology, Charlottetown.

Shinn, J. (November, 1990). "P.E.I. Food Technology Centre". PEI Federation of Agriculture and PEI Institute of Agrologists, Agriculture Awareness.

Shinn, J. (November 1990). PEI Milk Marketing Board, Product and Process Innovations for PEI Dairies, Charlottetown.

Smith, J. (September 1990). Meeting of the International Institute of Refrigeration on "Chilling and Freezing of New Fish Products", Aberdeen, Scotland.

Walton, C. (June 1990). Sanitary Practices - A workshop for the food processing industries, Holland College, Charlottetown.

Walton, C. (November 1990). PEI Seafood Processors Association Annual Meeting, Charlottetown.

Walton, C. (February 1991). PEI Seafood Processors Workshop. Heat treatment processes for the control of Listeria monocytogenes, Charlottetown.

PARTICIPATION IN WORKSHOPS

- FTC Exhibit, Industry, Science & Technology, Moncton, N.B., February 1991.
- FTC Exhibit, Chamber of Commerce Women in Business, Charlottetown, April 1990.

STAFF ATTENDANCE AT CONFERENCES, TRADE SHOWS & SCIENTIFIC MEETINGS

- Potato Industry Congress, Charlottetown, April 1990
- Boston Seafood Show, Boston, Mass., April 1990
- UPEI Science Fair, Charlottetown, April 1990
- Seafood 2000, Halifax, May 1990
- Cheese Technology Short Course, University of Guelph, Guelph, Ont., May 1990.
- Dept. of Communication, Government Telecommunications Agency Conference, Moncton, N.B., May 1990
- CIFST N.B./P.E.I. Quality Management Programs, Charlottetown, May 1990
- Sanitation Workshop, Food Processing Technology, Holland College, Charlottetown, June 1990.
- CIFST Annual Conference, Saskatoon, Sask., June 1990
- World Aquaculture Society Conference, Halifax, N.S., June 1990
- Sensory Analysis Short Course, Los Angeles, USA, June 1990.
- Institute of Food Technology Annual Convention, Los Angeles, U.S.A., 1990
- Occupational Health & Safety Conference, P.E.I. Dept. of Labour, Charlottetown, June 1990.
- Atlantic Food Research and Development Association, Charlottetown, September 1990.
- Visit to U.K. re technology transfer, September, 1990.
- International Dairy Congress and Exposition, 5-day Symposium of Dairy Research, Technology, Product Development and Trade Show, Montreal, PQ, October 1990
- SIAL Food Show, Paris, France, October 1990
- Toxic Marine Algae Conference, Halifax, N.S., October 1990
- Fish Silage Workshop, TUNS, Halifax, N.S., October 1990
- Canada Committee on Food, Ottawa, November 1990
- Canadian Computer Show, Rexdale, Ontario, November 1990.
- Methods for Extracting and Purifying Functional Fish Proteins, U.K., 1990
- P.E.I. Department of Agriculture Mission to Investigate Dairy and Vegetable Processing, France and The Netherlands, 1990
- Sixth International MAP Conference on Controlled/Modified Atmosphere/Vacuum Packaging., San Diego, California, January 1991.
- FDA Workshop - Importing Seafoods, Boston, Mass., January 1991.
- Neutraceuticals and Pharmafoods, New Orleans, U.S.A., January 1991
- Thermal processing - A Workshop for the Nineties, San Francisco, Cal., February 1991.
- Canadian Space Agency Conference, Charlottetown, February 1991
- Atlantic Committee on Food, Halifax, N.S., February 1991
- Seafood Trends 2000, Moncton, N.B., February 1991
- CIFST-N.B./P.E.I., Hazard Analysis and Critical Control Point Seminar and Workshop, Saint John, N.B., March 1991.
- Canadian Centre for Innovative Fisheries Technology, Packaging for Profit, Teleconference, March 1991.

FTC staff provide innovation and technical support to the Island's food industry.

COMMITTEE INVOLVEMENT/APPOINTMENTS

Richard Ablett

- Member, Canada Committee on Food, (1988-90; 1990-92)
- Chairperson, Task Force on Technology Transfer, Agriculture Canada, Ottawa
- Chairperson, Atlantic Food Research and Development Association
- Member, Science and Technology Council, Province of Prince Edward Island

Tom O'Rourke

- Biotechnology Network Committee (National), National Research Council.
- Member, Approval Committee, Technology Acquisition and Development Program. ID Sub Agreement Industry.
- Member, Biotechnology Advisory Group, IRAP, National Research Council.
- Implementation and Training (Atlantic), Release 1-2 Database. National Research Council.
- Local Arrangements Committee, Acquisition Association of Canada, Charlottetown 1993 Conference.

Joy Shinn

- Director, NB/PEI Section, Canadian Institute of Food Science and Technology. March 1990-91.
- Judge, PEI Provincial Science Fair, University of P.E.I., April, 1990.

Jim Smith

- Secretary, Advisory Committee on Food Processing and Engineering, subcommittee of Atlantic Committee on Agricultural Engineering.

George Wright

- Chairperson, Assessment Review Committee, Maritime Procurement Agreement, Council of Maritime Premiers.

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